AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1.   (Previously Presented) A computer-implemented method for ~~decompressing~~ identifying a data component in a trie based on multiple tags, the trie including a node section containing a plurality of nodes, the method comprising:

identifying a tag bit in a ~~first~~ node of the plurality of nodes ~~node section~~, wherein a setting of the tag bit indicates a presence of a tag corresponding to the node ~~having a setting for indicating multiple tagging in the first node~~;

identifying a tag mask field within ~~in~~ the ~~first~~ node based on ~~the~~ a setting of the tag bit, the tag mask field having a plurality of tag mask bits, wherein settings of the tag mask bits indicate a plurality of tags corresponding ~~being attached~~ to the ~~first~~ node ~~and including a plurality of bits~~;

~~generating~~ determining a data component in the trie ~~node information~~ based on ~~settings of each bit in~~ the plurality of tags ~~tag mask field~~; and

~~decompressing the trie based on~~ outputting the ~~node information~~ data component.

2-18. (Canceled)

19.   (New) The method of claim 1 wherein the tag bit has a setting for indicating the presence of the tag mask field.

20.   (New) The method of claim 19 wherein the step of identifying a tag mask field includes determining the absence of tag mask field based on a value of the tag bit.

21.   (New) The method of claim 1 wherein the trie further includes a header, the header including at least one bit for indicating a size of the tag mask field.

22.   (New) The method of claim 1 wherein the trie further includes a header, the header comprising a tag information field for interpreting the tag bit.

23.   (New) The method of claim 22 wherein the tag information field has a setting that indicates multiple tagging is present.

24.   (New) The method of claim 23 wherein the step of identifying a tag mask field further includes identifying presence of the tag mask field based on the setting of the tag information field and the setting of the tag bit.

25.   (New) The method of claim 24 wherein at least one tag mask bit of the tag mask field is set to one.

26.   (New) The method of claim 24 wherein the corresponding data component is based on a pattern of values of the tag mask bits of the tag mask field.

27.   (New) The method of claim 24 wherein the corresponding data component includes a word in the trie.

28.   (New) The method of claim 24 wherein outputting the corresponding data component includes outputting a word in the trie based on the pattern of values of the tag mask bits of the tag mask field.

29.   (New) The method of claim 1 wherein the trie further includes a header, the header including a tag value field for indicating that at least one tag mask bit has at least one associated value.

30.   (New) The method of claim 29 wherein the header further includes a value mask field for indicating which of the at least one tag mask bits has an associated value.

31.   (New) The method of claim 30 wherein the header further includes a value size array field for indicating a size of the value associated with the at least one tag mask bit.

32.   (New) The method of claim 30 wherein the node further includes a value field having tag data associated with at least one tag mask bit, the method further including:
        identifying a tag mask bit as having associated tag data based on a value of the tag value field; and
        determining the tag data associated with the identified tag mask bit based on a value of the value mask field,
        wherein outputting the corresponding data component includes outputting the associated tag data.

33.   (New) The method of claim 1 wherein the trie further includes a header containing a tag information field, the step of identifying the tag mask field including

determining a presence of the tag mask field based on a value of the tag information field and a value of the tag bit.

34.   (New) The method of claim 33 further including determining a number of tags present in the trie based on the tag mask field.

35.   (New) The method of claim 34 wherein determining the number of tags present in the trie includes summing the number of one bits in the tag mask field of the node.

36.   (New) The method of claim 33 further including identifying additional information to add to the node by partial enumeration, the partial enumeration including:

      counting each node in the plurality of nodes that are tagged;

      generating an array of partial enumeration counts;

      generating a map between a unique number and a tagged node based on the array.

37.   (New) The method of claim 1 wherein the step of identifying a tag bit in the node includes determining a value of the tag bit indicating the presence of the tab mask field, the step of identifying the tag mask field including determining a value for each of the tag mask bits of the tag mask field wherein at least one of the tag mask bits has a value indicating a corresponding tag associated with the node, the step of determining a data component in the trie including identifying a characteristic of a word in the trie based on the value of the at least one of the tag mask bits.